

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

ORDER NO. 95-011

**REVISED WASTE DISCHARGE REQUIREMENTS
AND RESCISSION OF WASTE DISCHARGE REQUIREMENTS ORDER NO. 92-035**

**NAPA PIPE CORPORATION
CLASS II WASTE MANAGEMENT UNIT
SITE 1
NAPA, NAPA COUNTY**

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

Facility Description

1. Napa Pipe Corporation, a wholly-owned subsidiary of Oregon Steel Mills, Inc. (hereinafter called the Discharger), operates a steel pipe manufacturing facility (hereinafter called the Facility) which discharges wastewater from the pipe mill, the pipe internal coating operations and a portion of the surface storm water discharge to the Napa Sanitation District. The 152 acre Facility is located at 1025 Kaiser Road at the corner of Kaiser Road and Basalt Road, and is bounded by the Napa River to the west and south, open land to the east and by business complexes to the north.
2. Site 1 is an inactive Class II solid waste management unit which has recently completed corrective action measures. Site 1 is located in the southwest portion of the Facility and is bounded by the Napa River to the west, wetlands to the south, and a Southern Pacific Railroad right-of-way to the east. Low lying portions of Site 1 has received granular, porous, and permeable fill material, which comprises the upper hydrostratigraphic unit and consists of silts, sands, gravels, bricks, black vitreous welding flux and mill scale. Priority pollutant metals have been detected at Site 1. The disposal of mill wastes at Site 1 was discontinued in late 1979. A permit to fill a portion of the wetlands to accommodate a rail spur was issued by the U.S. Army Corps of Engineers in 1982. The Discharger has completed the wetlands fill project. A Technical Memorandum dated February 13, 1992 indicated that metal contaminated welding flux material and blasting sand excavated from an abandoned drainage ditch located at Site 2/3 and was placed into Site 1 for proper management. The excavated waste contaminated material is similar to the waste material which exists in Site 1.

Related Orders

3. On April 15, 1992 the Board Adopted Waste Discharge Order No. 92-035, which regulates corrective action at Site 1. On December 12, 1990 the Board adopted Waste Discharge Order No. 90-154, NPDES No. CA0027928, which regulates storm water runoff and discharges from dry docks into the Napa River and its tributaries. On November 14, 1990 the Board adopted Site Cleanup Requirements Order No. 90-147, which regulates the implementation of an approved Facility corrective action plan. On May 17, 1989 the Board adopted Waste

Discharge Requirements Order No. 89-070, which regulated the closure of an oily-water pretreatment impoundment. This Order revises Order No. 92-035.

Site 1 Soil Contamination.

4. The Discharger submitted a January 1990 Site Investigation Report. The investigation reported Site 1 soil contamination as high as:
 - Zinc at 5,500 mg/kg in Boring 1A exceeded the total threshold limit concentration (TTLC) of 5,000 mg/kg for Zinc.
 - Barium at 19,000 mg/kg in EPA's Boring SS-03, and 78,000 mg/kg in the bottom of nearby Boring 1E (2.5 feet deep) exceed the TTLC of 10,000 mg/kg for Barium.
 - Pyrene was detected in Borings 1A and 1G at 2.9 and 2.0 mg/kg, respectively.
 - Total Petroleum Hydrocarbons (TPH) at 100 mg/kg in boring BH-11.

Site 1 Groundwater Contamination.

5. The Discharger submitted a January 1990 Site Investigation Report. The investigation reported Site 1 groundwater contamination as high as:
 - Lead in MW-8 at 180 ug/l; the California maximum contaminant level (MCL) is 50 ug/l.
 - Barium in both MW-7 and MW-8 at 1100 ug/l; the California MCL is 1000 ug/l.
 - Chromium in MW-8 and the adjacent deeper well DW-4 at 77 ug/l and 88 ug/l; the California MCL is 50 ug/l.
 - Total Oil and Grease was detected at 1.1 mg/l in deeper well DW- 4
 - 1,1 Dichloroethane was detected at 0.2 ug/l in MW-24; the California proposed MCL is 5 ug/l.
6. The Discharger submitted an October 18, 1991 Site 1 submittal. The submittal reported Site 1 groundwater contamination as high as:
 - Aluminum was detected at 29 mg/l (the MCL is 1.0 mg/l) in well MW-8
 - Lead was detected at 0.085 (the MCL is 0.05 mg/l) in well MW-8
 - TPH (by EPA Method 8015/3550) 2.9 mg/l in well MW-8
 - Chromium 0.3 mg/l (the MCL is 0.05 mg/l) in well MW-28
7. The Discharger's May 17, 1994 quarterly groundwater monitoring report indicates the following:
 - Barium, copper, chromium and zinc were detected below MCL's.
 - Total Recoverable Petroleum Hydrocarbons by EPA method 418.1 were not detected in Site 1 groundwater wells.
 - Aluminum was detected at concentrations ranging from 4.4 to 7.4 mg/l in compliance wells MW-47 and MW-48. The MCL for aluminum is 1.0 mg/l. The Discharger has reported that aluminum is not a constituent of Site 1 waste.
 - Volatile Organic Compounds (VOC's) have generally not been detected in Site 1 groundwater.

The Discharger believes that, in most cases, the elevated concentrations of metals detected in the late 1980's were associated with particulate matter (suspended solids) and were not

representative of dissolved groundwater metal concentrations. The recent groundwater monitoring data indicate that groundwater metal concentrations at Site 1 are below Maximum Contaminant Levels.

8. In a Regional Board letter dated January 22, 1993, the Discharger was released from the requirements to monitor for base/neutral/acid (BNA's) compounds. This determination was made after reviewing four years of quarterly groundwater data for Site 1 and the Facility. The data did not indicate the presence of BNA's.

Hydrogeology of Site 1

9. The Discharger submitted a January 1992 Site 1 Hydrogeologic Characterization and Groundwater Study which identified three separate hydrostratigraphic units beneath Site 1. The shallow unit comprises the shallow groundwater zone. The shallow unit consists of fill of which the lower one foot of the fill is seasonally saturated. Groundwater in the shallow zone communicates directly with the underlying unit. The shallow groundwater flows at about 10 feet/year southward parallel to the Napa River, toward the wetlands, and it is not influenced by the marine tides. The shallow unit's hydraulic conductivity values range from 1×10^{-3} to 6×10^{-5} cm/sec.

About five feet below the ground surface and underlying the fill is the second hydrostratigraphic unit. This unit is comprised of an organic clay with abundant, thinly interbedded peat and silty clay layer. The hydraulic conductivity ranges from 2×10^{-3} to 5×10^{-5} cm/sec.

The deepest unit is the cemented clayey silt zone which contains sand and gravel inclusions. The cemented clayey silt is dense and in many cases dry but the sand and gravel inclusions contain water. The deep units hydraulic conductivity was reported at 1×10^{-4} cm/sec. The inclusions may be hydraulically connected to the nearby Napa River.

10. The Discharger has requested an exemption to unsaturated zone monitoring pursuant to Chapter 15, Article 5, Section 2550.7 (d). Based on review of Site 1 conditions the determination has been made that 1.) there is no unsaturated zone monitoring device or method designated to operate under the subsurface conditions at Site 1, and 2.) the installation of the unsaturated zone monitoring devices would require unreasonable dismantling or relocation of permanent structures.

Variance to Class I Disposal

11. The Discharger requested and was granted a variance for the leaving of hazardous wastes in place at Site 1. The variance was appropriate because the hazardous concentrations were detected infrequently and statistically are anomalous.

Engineered Alternative Of Class II Standards

12. Site 1 is classified as a Class II waste management unit and is subject to the requirements of Chapter 15, Article 3, Title 23 of the California Code of Regulations. Section 2510(b) of Chapter 15 allows for consideration of alternatives to the standard, only when the Discharger demonstrates that the standards are impracticable and, unreasonably and unnecessarily burdensome. In addition, the alternative design shall be a specific engineered alternative consistent with the goals of the standard and afford equivalent protection against water quality impairment.
13. The proposed alternative design for Site 1 does not meet the prescriptive design standards of a Class II waste management unit because it does not include engineered liners and, leachate collection and removal system and existing conditions are such that there is less than five feet separation between the bottom of the proposed unit and the highest anticipated level of the shallow groundwater.
14. Strict compliance with the Class II standards is impractical because the cost (\$12,000,000 est.) of achieving Class II standard design is unnecessarily and economically burdensome. However, the engineered alternative design (low permeability asphaltic cap, collection trench system, surface water control, etc.) is consistent with the performance goal of equivalent water quality protection. The cap will minimize water infiltration and the trench will have the capacity to collect contaminated groundwater and control groundwater movement. The levee on the west side of Site 1 and the railroad embankment on the east side were constructed on compacted clay and provide limited lateral containment for contaminated groundwater.

Corrective Action Measures

15. The Discharger submitted two February 13, 1992 Technical Memorandums which indicated the following:
 - Site 1 paint waste was uncovered along the eastern portion of Site 1 during Site 1 excavation activities. The paint waste was excavated and removed for offsite disposal.
 - Visible contamination was removed from the Site 2/3 abandoned drainage ditch and placed in Site 1. The site 2/3 material consisted of metal contaminated welding flux and blasting sand. Confirmation samples were taken from the open excavation at Site 2/3. The results indicated that negligible contamination remained.
16. The Discharger submitted a January 1994 Site 1 As-Built Landfill Design Report. The report documented the following corrective action measures at Site 1:
 - A low permeability asphaltic concrete cap was placed over the entire site.
 - A clean-fill earthen embankment was constructed along the wetlands/fill boundary at the southern end of Site 1.
 - Two downgradient compliance groundwater monitoring wells (MW-47 and MW-48) were installed in the clean fill. These wells will be used to monitor groundwater discharges from Site 1. Additionally, ongoing statistical analysis will be performed to determine if Site 1 is leaking.
 - A 462 foot long and approximately 10 foot deep groundwater extraction trench system was installed, which is capable of extracting groundwater and maintaining hydraulic containment.

- Construction of a storm water system for surface water control. The system includes a stormwater oil/water separator.
- Construction of all subsurface appurtenances and installation of conduits for future electrical and mechanical systems for the groundwater extraction system.

The extraction trench system will be activated if it is determined that Site 1 is leaking at concentrations above the water quality objective. If the extraction trench is operated it may be necessary to install an additional groundwater monitoring well along the east side of the waste management unit.

Basin Plan

17. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986 and amended it on August 19, 1987, July 18, 1989 and December 11, 1991. This Order implements the water quality objectives for the Basin Plan.

Beneficial Uses

18. The potential beneficial uses of the groundwater in the area are:
 - a. Municipal Supply
 - b. Industrial Process and Service Supply
 - c. Agricultural Supply
19. Groundwater is utilized for drinking water purposes in the area; there are two existing industrial process and service supply water wells on site. These two wells are screened beginning at a depth greater than 400 feet below the ground surface.
20. The existing and potential beneficial uses of the Napa River are:
 - a. Municipal and Domestic Supply
 - b. Agricultural Supply
 - c. Navigation
 - d. Water Contact Recreation
 - e. Non-Contact Recreation
 - f. Warm Fresh Water Habitat
 - g. Cold Fresh Water Habitat
 - h. Wildlife Habitat
 - i. Preservation of Rare and Endangered Species
 - h. Fish Migration
 - j. Fish Spawning

California Environmental Quality Act

21. This action is an Order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the California Environmental Quality Act pursuant to Section 15308, Title 14, California Code of Regulations.

Notice and Meeting

22. The Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
23. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Napa Pipe Corporation, and any other persons that currently or in the future own this land or operate this Facility, shall meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and shall also comply with the following:

A. Prohibitions

1. The treatment or storage of waste shall not degrade the quality of any usable ground water.
2. The discharge of wastewater onto land, into ground waters or surface waters is prohibited.
3. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.
4. The disposal of any new wastes placed into Site 1 is prohibited.
5. The storage, handling, treatment or disposal of sediments, groundwater, or any waste originating from Site 1 shall not create a nuisance as defined in Sections 13050(l) and 13050(m) of the California Water Code.
6. Activities associated with subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

The Discharger shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:

a. Surface Waters

1. Floating, suspended, or deposited macroscopic particulate matter or foam.
2. Bottom deposits or aquatic growth.
3. Alteration of temperature, turbidity, or apparent color beyond natural background levels.
4. Visible, floating, suspended or deposited oil or other products of petroleum origin.

5. Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
- b. Groundwater
1. The groundwater shall not be degraded as a result of the waste disposal operation.

B. General Specifications

1. The Site 1 waste management unit shall prevent migration of wastes to adjacent geologic materials, groundwater, or surface water, throughout closure, and post-closure period.
2. Maintain foundations capable of supporting the Site 1 groundwater containment system and capable of withstanding hydraulic pressure gradients to prevent failure due to settlement, compression, or uplift.
3. The materials used for containment structures shall have appropriate chemical and physical properties to ensure containment of wastes at all times.
4. The Discharger shall ensure that Site 1, and the structures which control groundwater and surface water for this site, are constructed and maintained to withstand loads or enable repair from conditions generated during the maximum credible earthquake event critical to the site.
5. The waste management unit shall be maintained to preclude failure as a result of potential rapid geologic changes.
6. All engineering and geological submittals shall be prepared under the direct supervision of and certified by a registered civil engineer or a certified engineering geologist.
7. The Discharger shall install, maintain in good working order, and operate efficiently any facility, alarm, or control system necessary to assure compliance with these Waste Discharge Requirements
8. The Discharger shall operate Site 1 according to the Discharger's July 1, 1992 Site 1 Groundwater Monitoring and Extraction Implementation Plan , which includes a detailed operating and contingency plan, procedures for routine inspection of Site 1, detection system monitoring, contingency measures if leachate is detected or problems with the containment structures are found, and notification of agencies.
9. The Discharger shall insure that runoff/runon is diverted away from the disposal area, such that it does not contact waste.

10. Operation of the groundwater extraction system shall be implemented where water quality impairment has occurred, or upon determination that a statistically significant increase in Site 1 leakage indicator parameters has occurred during detection monitoring.
11. The Discharger shall install any additional groundwater and surface water monitoring devices required to fulfill the terms of this Order.

C. General Site 1 Monitoring Specifications

1. All monitoring wells shall be constructed in a manner that maintains the integrity of the drill hole, prevents cross-contamination of saturated zones, and produces representative groundwater samples from discrete zones within the aquifer unit each well is intended to monitor.
2. All borings for monitoring wells shall be continuously cored, and the core shall be archived. The drill holes shall be logged during drilling under the direct supervision of a registered geologist whose signature appears on the corresponding well log. Logs of monitoring wells shall be filed with the Department of Water Resources. All information used to construct the wells shall be submitted to the Board upon completion of the wells.
3. All soil and groundwater samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All Laboratories shall maintain quality assurance/control records for the Board staff to review.
4. WATER QUALITY PROTECTION STANDARD - Pursuant to Article 5, §2550.2 the Constituents of Concern and respective Concentration Limits are specified in this Order to be a component of the Self Monitoring and Reporting Program (SM&RP), Appendix I. The Point of Compliance is a vertical surface located at the hydraulically downgradient limit of Site 1 (see Figure 3). The monitoring points for the Point of Compliance for Site 1 are specified in the SM&RP.
5. If it is determined by the Executive Officer, based on groundwater monitoring information, that water quality impairment outside of Site 1 is not improving, or continues to degrade, the discharger may be required to submit additional site specific groundwater corrective action proposals.
6. Pursuant to §2550.8(e) of Article 5, the Discharger has proposed a list of monitoring parameters, frequency of sampling and frequency of reporting for the Facility's Site 1 solid waste management unit (SWMU). As provided by Article 5, the proposed list shall include those physical parameters, hazardous constituents, waste constituents, and reaction products that provide a reliable indication of a release from the SWMU to adjacent mediums. The monitoring parameters are listed and included in the attached SM&RP as Appendix 1, Table 1. The Discharger shall monitor for all Constituents of Concern and for each Monitoring Parameter at intervals determined in the SM&RP.

7. The Discharger shall implement any Self Monitoring and Reporting Program issued by the Executive Officer. The purpose of the SM&RP is to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from Site 1, or any unreasonable impairment of beneficial uses associated with the Facility's past and present activities.
8. The Discharger shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of contamination, pollution, or nuisance to occur, as indicated by the most appropriate statistical data analysis method and retest method listed in Part III of the attached SM&RP.
9. Water Quality Protection Standard (Standard) for Detection Monitoring. The five parts of the Water Quality Protection Standard of §2550.2 of Article 5 are as follows:
 - a. Constituents of Concern [§2550.3 of Article 5], are a list of contaminants which are most likely to be present in the groundwater at the Facility. The Constituents of Concern are specified in Appendix I, Table 1 of the SM&RP.
 - b. Concentration Limits [§2550.4 of Article 5]. For each Monitoring Point assigned to a Detection Monitoring Program (Table 1), the Concentration Limit for each Constituent of Concern shall be listed in the requirements. Concentration limits for Site 1 will be based on Regional Board staff's review of the Discharger's statistical groundwater monitoring data during the active life and closure of Site 1.
 - c. Point of Compliance [§2550.5 of Article 5]. The Point of Compliance is shown on Figure 3, and extends down through the Zone of Saturation [§2601 of Article 10] for Site 1.
 - d. Monitoring Points and Background Monitoring Points for Detection Monitoring [§2550.5 of Article 5] shall be those listed in Appendix I, Table 1 of the attached SM&RP.
 - e. Compliance Period [§2550.6]. The duration of the Compliance Period for Site 1 is equal to the active life of Site 1, including the closure period. Each time a release from Site 1 is statistically confirmed, Site 1 begins a Compliance Period on the date the Regional Board directs the Discharger to begin an Evaluation Monitoring Program. If the Discharger's Corrective Action Program (CAP) has not achieved compliance with the Standard by the scheduled end of the Compliance Period, the Compliance Period is automatically extended until the waste management unit has been in continuous compliance for at least three consecutive years [§2550.6(c) of Article 5].
10. Additional Monitoring Points or Background Monitoring Points. If the Executive Officer determines the existence of an imminent threat to surface or subsurface waters of the State, the Discharger may be required to install additional ground water, soil pore liquid, soil pore gas, or leachate monitoring devices.
11. If verification of a release from Site 1 is confirmed, the groundwater extraction system shall be fully operational within eight months from the date the release was confirmed.

D. Provisions

1. The Discharger shall submit a technical report, acceptable to the Executive Officer, consisting of a closure and post closure maintenance plan pursuant to Title 23, CCR, Chapter 15, Article 9. The technical report shall contain an Operation and Maintenance Plan for Site 1 and the groundwater extraction system. Additionally, the report shall contain a revised approach/proposal for the statistical analysis of the compliance monitoring data.

REPORT DUE: No later than March 24, 1995

2. At any time, the Discharger may file a written request [including appropriate supporting documents] with the Regional Board Executive Officer, proposing appropriate modifications to the Self Monitoring and Reporting Program. The request may address changes (a) to any statistical method, non-statistical method, or retest method used with a given constituent or parameter, (b) to the manner of determining the background value for a constituent or parameter, (c) to the method for displaying annual data plots, (d) to the laboratory analytical method used to test for a given constituent or parameter, (e) to the media being monitored [e.g., the addition of soil pore gas to the media being monitored], (f) to the number or placement of Monitoring Points or Background Monitoring Points for a given monitored medium, or (g) to any aspect of monitoring or QA/QC. After receiving and analyzing such a report, the Executive Officer either shall reject the proposal for reasons listed, or shall incorporate it -- along with any necessary changes -- into the attached Self Monitoring and Reporting Program. The Discharger shall implement any changes in the Self Monitoring and Reporting Program proposed by the Regional Board Executive Officer upon receipt of a revised Self Monitoring and Reporting Program.

REPORT DUE DATE: Within two months of realizing, or of being notified by the Regional Board Executive Officer, that a change is appropriate.

3. The Discharger shall obtain and maintain an approved Financial Assurance Instrument (until the end of the Post-Closure Maintenance Period). The Discharger shall submit a report every five years that either validates the Instrument's ongoing viability or proposes and substantiates any needed changes [e.g., a documented increase in the monitoring systems' ability to provide reliable early detection of a release can cause a decrease in the Instrument's financial coverage].

Proof of Financial Assurance Instrument DUE: June 30, 1995

And once every **five years** from the date of the adoption of this Order.

4. The Discharger shall establish a procedure to update Concentration Limits pursuant to Chapter 15, Section 2550.2 to 2550.8 in defining the Water Quality Protection Standards and complying with the Detection Monitoring Program Performance Standards. After four quarters of Site 1 detection monitoring data are obtained, the Discharger shall propose for Regional Board review, Concentration Limits for each Constituent of Concern and Monitoring Parameter. Concentration Limits will be periodically reviewed and stated in the Self Monitoring and Reporting Program (Appendix I).

SUBMITTAL DUE DATE: Within six months after four quarters of Site 1 detection monitoring data are obtained.

5. Regional Board Waste Discharge Requirement Order Number 92-035 is hereby rescinded.
6. The Discharger shall comply with all applicable requirements of the California Code of Regulations Title 23, Division 3, Chapter 15 which includes the requirements of Article 5.
7. The Discharger shall permit the Board, or its authorized representative, in accordance with Section 13267(c) of the California Water Code:
 - a. Entry upon premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which may be relevant to the Order.
 - b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the Discharger.
8. The Discharger shall file with this Board a report of any material change or proposed change in the character, location, or quantity of this waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries, contours, or ownership of any disposal area.
9. The Discharger shall notify this Board of any soil or groundwater contamination discovered during any subsurface investigations conducted on the Facility property, which may potentially have an adverse impact on ground or surface waters.
10. The Board considers the property owner and site operator to have a continuing responsibility for correcting any problems within their reasonable control which arise in the future as a result of this waste discharge or water applied to this property during subsequent use of the land for other purposes.
11. These requirements do not authorize the commission of any act causing injury to the property of another or of the public, do not convey any property rights, do not remove liability under federal, State or local laws, and do not authorize the discharge of waste without the appropriate Federal, State, or local permits, authorizations, or determinations.
12. Technical reports/plans, submitted by the Discharger, in compliance with the Prohibitions, Specifications, and Provisions of this Order shall be submitted to the Board on the schedule specified herein. These reports/plans shall consist of a letter report that includes the following:

- a. Identification of any obstacles which may threaten compliance with the schedule;
- b. In the event of non-compliance with any Prohibition, Specification or Provision of this Order, written notification which clarifies the reasons for non-compliance and which proposes specific measures and a schedule to achieve compliance. This written notification shall identify work not completed that was projected for completion, and shall identify the impact of non-compliance on achieving compliance with the remaining requirements of this Order; and,
- c. In the self-monitoring reports, an evaluation of the current groundwater monitoring system and a proposal for modifications as appropriate.

All submittals of hydrogeological plans, specifications, reports, and documents (except quarterly progress and self-monitoring reports), shall be signed by and stamped with the seal of a registered geologist, registered engineering geologist, or registered professional engineer.

13. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.
14. The Discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.
15. Regional Board staff has reviewed the Dischargers exemption request and hereby grants the Discharger an exemption from unsaturated zone monitoring beneath Site 1.
16. The Discharger shall implement any Self Monitoring and Reporting Program issued by the Executive Officer.
17. The Discharger shall comply with all applicable items of the attached Standard Provisions and Reporting Requirements dated August 1993, or any amendments thereafter.
18. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, submitted by the Discharger, shall also be provided to the following agency:
 - a. Napa County Department of Environmental Management; and,
19. If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited, or probably will be discharged in or on any waters of the state, the Discharger shall report such discharge to the following:
 - (1) This Regional Board at (510) 286-1255 on weekdays during office hours from 8 a.m. to 5 p.m.; and,

- (2) The Office of Emergency Services at (800) 852-7550.

A written report shall be filed with the Regional Board within five working days and shall contain information relative to the following:

- (1) The nature of waste or pollutant;
 - (2) The quantity involved and the duration of incident;
 - (3) The cause of spill;
 - (4) The estimated size of affected area;
 - (5) The corrective measures that have been taken or planned, and a schedule of these measures; and,
 - (6) The persons/agencies notified.
20. The Discharger shall maintain a copy of this Order at the Facility so as to be available at all times to Facility operating personnel.
21. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on January 18, 1995.



STEVEN R. RITCHIE
EXECUTIVE OFFICER

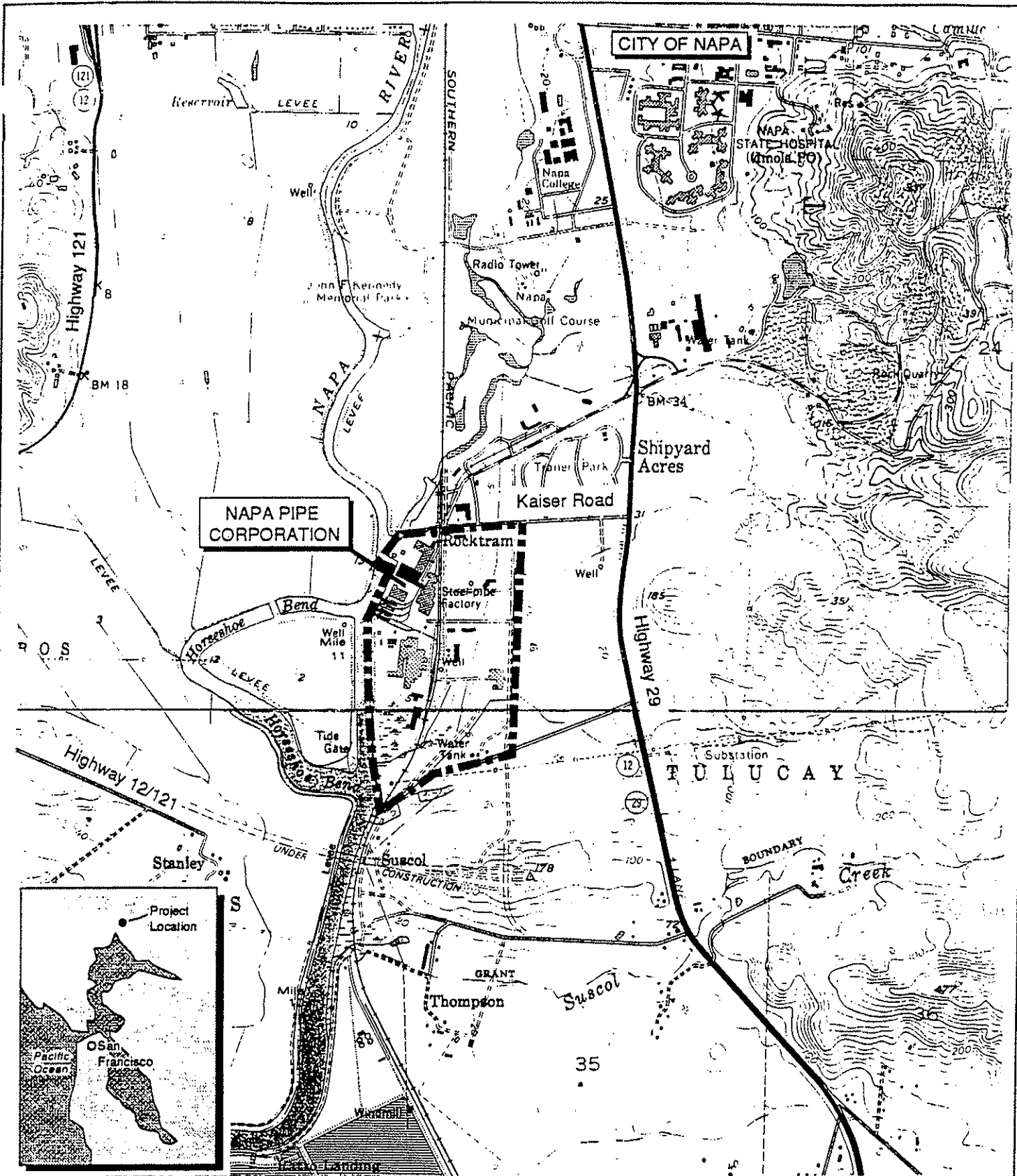
Attachments:

Figure 1	Site Location Map
Figure 2	Facility Map
Figure 3	Site 1 Monitoring Well Location and Point of Compliance Map

Appendix I	Self Monitoring & Reporting Program
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- Figure 1:	Statistical Method Flow Chart
- Table 1:	Site 1: Constituents of Concern, Monitoring Parameters, and Water Quality Parameters

Appendix II	Standard Provisions and Reporting Requirements
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SCALE IN MILES

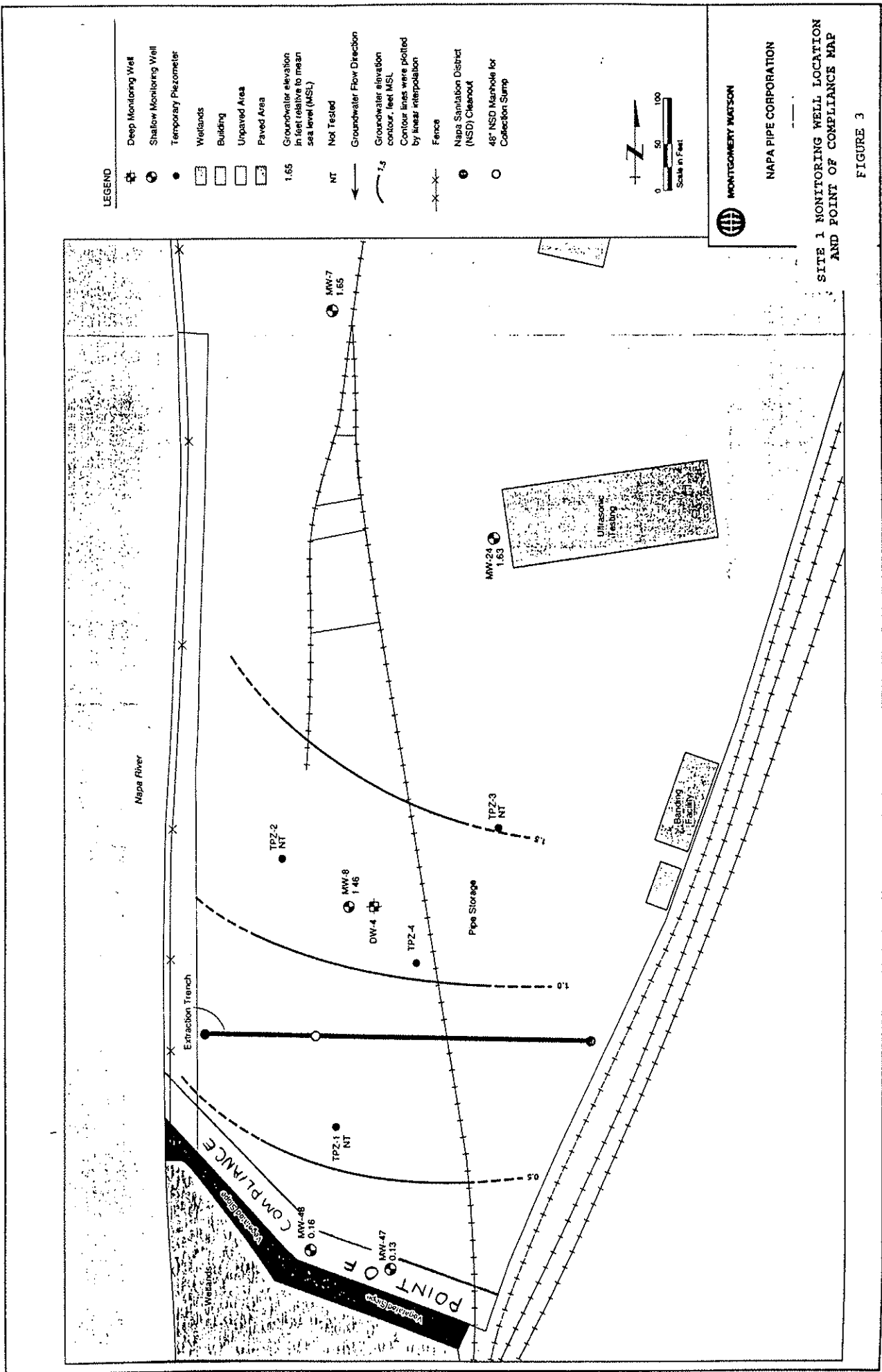
USGS Topographic Maps 7.5' Napa and Cuttings Wharf CA Quads



MONTGOMERY WATSON

**NAPA PIPE CORPORATION
SITE LOCATION MAP**

FIGURE 1



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

SELF-MONITORING AND REPORTING PROGRAM

FOR

**NAPA PIPE CORPORATION
CLASS II WASTE MANAGEMENT UNIT
SITE 1
NAPA, NAPA COUNTY**

ORDER NO. 95-011

CONSISTS OF

PARTS I, II, and III

PART I

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16. This Self Monitoring and Reporting Program (SM&RP), is issued in accordance with Provision C.16 of Regional Board Order No. 95-011.

The principal purposes of a SM&RP are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, and (4) to assist the Discharger in complying with the requirements of Article 5, Chapter 15. Under no circumstances is the SM&RP to serve as a substitute document to the detailed requirements of Chapter 15.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analysis shall be performed according to the most recent version of Standard USEPA Methods, and in accordance with an approved sampling and analysis plan. Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. Specific methods of analysis must be identified. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Executive Officer prior to use. The director of the laboratory, or the director's designee, shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements. In addition, the Discharger is responsible for seeing that the laboratory analysis of all samples from Monitoring Points and Background Monitoring Points meets the following restrictions:

1. The methods of analysis and the detection limits used must be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations [i.e., "trace" or "ND"] in data from Background Monitoring Points for that medium, the analytical method having the lowest "Facility-specific method detection limit [MDL]" -- defined in Part I.C.7. -- shall be selected from among those methods which would provide valid results in light of any "Matrix Effects" [defined in Part I.C.6.] involved.
2. "Trace" results -- results falling between the MDL and the Facility-specific practical quantitation limit [PQL] -- shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run and by an estimate of the constituent's concentration.
3. MDLs and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. If the lab suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the

results shall be flagged accordingly, along with an estimate of the detection limit and quantitation limit actually achieved.

4. All QA/QC data shall be reported, along with the sample results to which it applies, including the method, equipment, and analytical detection limits, the recovery rates, an explanation for any recovery rate that is less than 80%, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recovery.
5. Statistical procedures for determining the significance of analytical results need not be performed for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Board staff.
6. Unknown chromatographic peaks shall be reported and flagged for easy identification. When unknown peaks are encountered, Regional Board staff may require: an estimate of the concentration of the unknown analyte, and may require that second column or second method confirmation procedures be performed in an attempt to identify and more accurately quantify the unknown analyte.
7. In cases where contaminants are detected in QA/QC samples [i.e., field, trip, or lab blanks], the accompanying sample results shall be appropriately reported.
8. The MDL shall always be calculated such that it represents a concentration associated with a 99% reliability of a non-zero result.

C. **DEFINITION OF TERMS**

1. The "**Monitored Media**" are those water- or gas-bearing media that are monitored pursuant to this Self Monitoring and Reporting Program. The Monitored Media may include: (1) ground water in the uppermost aquifer, in any other portion of the zone of saturation [§2601 of Chapter 15] in which it would be reasonable to anticipate that waste constituents migrating from the Unit could be detected, and in any perched zones underlying the Unit, (2) any bodies of surface water that could be measurably affected by a release, (3) soil pore liquid beneath and/or adjacent to the Unit, and (4) soil pore gas beneath and/or adjacent to the Unit.
2. The "**Constituents of Concern [COC]**" are those constituents which are likely to be in the Site 1 waste or which are likely to be derived from waste constituents, in the event of a release. The Constituents of Concern for Site 1 are listed in Table 1 of this appendix.
3. The "**Monitoring Parameters**" are a subset of the constituents of concern and are parameters used for the majority of monitoring activity. The Monitoring Parameters for the Site 1 are listed in Table 1. Monitoring Parameters are used to indicate leakage from the Facility into the monitored media by comparing the monitoring results with the maximum allowable concentration limits established for a given monitored sector. For a detection monitoring program, the monitoring parameters

provide a possible indication of a release. During a corrective action period, monitoring parameters provide a means to evaluate the effectiveness of the corrective action.

4. **"Standard Observations"** refers to:
 - a) For Potential Receiving Waters (Napa River and Contiguous Wetlands);
 - 1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area;
 - 2) Discoloration and turbidity: description of color, source, and size of affected area;
 - 3) Evidence of odors: presence or absence, characterization, source, and distance of travel from source;
 - 4) Evidence of beneficial use: presence of water-associated wildlife;
 - 5) Flow rate; and
 - 6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation;
 - b) Along The Perimeter Of Site 1:
 - 1) Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate (show affected area on map);
 - 2) Evidence of odors: presence or absence, characterization, source, and distance of travel from source; and
 - 3) Evidence of erosion and/or of daylighted refuse.
 - c) For Site 1
 - 1) Evidence of ponded water at any point on the waste management unit (show affected area on map);
 - 2) Evidence of odors: presence or absence, characterization, source, and distance of travel from source;
 - 3) Evidence of erosion and/or of daylighted contaminated materials; and
5. **"Standard Analysis and Measurements"** refers to:
 - a) Turbidity [only for water samples], in NTU;
 - b) Water elevation to the nearest 1/100th foot above mean sea level [only for ground water monitoring]; and
 - c) Sampling and statistical analysis of the **Monitoring Parameters**.
6. **"Matrix Effect"** refers to any increase in the Method Detection Limit or Practical Quantitation Limit for a given constituent as a result of the presence of other constituents -- either of natural origin or introduced through a release -- that are present in the sample of water.
7. **"Method Detection Limit [MDL]"**, for a given analytical laboratory using a given analytical method to detect a given constituent [in spite of any Matrix Effect] **means** the lowest concentration at which the laboratory can regularly differentiate -- with 99% reliability -- between a sample which contains the constituent and one which does not.

8. **"Practical Quantitation Limit [PQL]"**, for a given analytical laboratory using a given analytical method to determine the concentration of a given constituent [in spite of any Matrix Effect] **means** the lowest constituent concentration the laboratory can regularly quantify within specified limits of precision that are acceptable to the Regional Board Executive Officer. The PQL shall reflect the Quantitation capabilities of the specific analytical procedure and equipment used by the laboratory. PQLs reported by the laboratory shall not simply be restated from USEPA analytical method manuals. In relatively interference-free water, laboratory derived PQLs are expected to closely agree with published USEPA PQLs. If the lab suspects that, due to matrix or other effects, the quantitation limit for a particular analytical run differs significantly from the laboratory- derived PQL, the results should be flagged accordingly, along with an estimate of the detection limit achieved.
9. **"Sample & Analysis Period"** means the duration separating sampling and analysis events from monitoring points or wells, for a given type of monitoring from the time the next iteration of that event. Unless otherwise specified in this SM&RP, the period for sampling and analysis for the Monitoring Parameters is quarterly. The period for sampling and analysis of all Constituents of Concern (COC), is quarterly until at least one year of data is collected, thereafter at least annually for the first five years from the date of issuance of this SM&RP, and then once every five years after the fifth Annual Report unless the Executive Officer requests to continue the once-per-year COC Sampling and Analysis Event.
10. **"Sample & Analysis Event"** means the point in time that sampling and analysis is performed from monitoring points or wells, for a given type of monitoring. Unless otherwise specified in this SM&RP, the sampling and analysis for the Monitoring Parameters will be quarterly, and the sampling and analysis of all Constituents of Concern will be during the 4th quarter Sampling and Analysis Period.
11. **"Reporting Period"** means the duration separating the submittal of a monitoring report from the time the next iteration of that report is scheduled for submittal. Unless otherwise specified in this SM&RP, the reporting period of the results of the sampling and analysis period is 6 months. The Reporting Period for the Annual Summary Report extends from January 1 of the previous year to December 31 of the current year. The due date for any given report will be 60 days after the end of its Reporting Period, unless otherwise stated.
12. **"Receiving Waters"** refers to any surface water which actually or potentially receives surface or ground waters which pass over, through, or under waste materials or contaminated soils. In this case the following surface water bodies are considered receiving waters: The Napa River and the contiguous wetland regions.

D. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the Discharger or laboratory, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and of the Monitoring Point or Background Monitoring Point from which it was taken, along with the identity of the individual who obtained the sample;

2. Date and time of sampling;
3. Date that analyses were started and completed, and the name of the personnel performing each analysis;
4. Complete procedure used, including method of preserving the sample, and the identity of reagents used;
5. Calculation of results; and,
6. Results of analyses, and the MDL and PQL for each analysis.

E. REPORTS TO BE FILED WITH THE BOARD

1. A written **Quarterly Monitoring Report** for Site 1 shall be submitted quarterly. The fourth Quarterly Monitoring Report will be the "**Annual Summary Report**". The reports shall be comprised of at least the following:
 - a. **Letter of Transmittal**
A letter transmitting the essential points in each report shall accompany each report. Such a letter shall include a discussion of any requirement violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations. If the Discharger has previously submitted a detailed time schedule for correcting said requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or above, or by his/her duly authorized representative, if such representative is responsible for the overall operation of the Facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct;
 - b. Each Monitoring Report shall include a compliance evaluation summary. The summary shall contain at least:
 - 1) For each monitored ground water body, a description and graphical presentation of the velocity and direction of ground water flow under/around Site 1, based upon water level elevations taken during the collection of the water quality data submitted in the report;
 - 2) **Pre-Sampling Purge for Samples Obtained From Wells:** For each monitoring well addressed by the report, a description of the method and time of water level measurement, of the type of pump used for purging and the placement of the pump in the well, and of the method of purging (the pumping rate, the equipment and methods used to monitor field Ph, temperature, and conductivity during purging, the calibration of the field equipment, results of the Ph, temperature, conductivity, and turbidity testing, the well recovery time, and the method of disposing of the purge water);
 - 3) **Sampling:** For each Monitoring Point and Background Monitoring Point addressed by the report, a description of the type of pump -- or other device --

used and its placement for sampling, and a detailed description of the sampling procedure [number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations];

- c. A map or aerial photograph showing the locations of observation stations and Monitoring Points;
- d. For each Monitoring Report include laboratory statements of results of all analyses demonstrating compliance with Part I.B.;
- e. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities;
- f. A summary and certification of completion of all Standard Observations [Part I.C.4.] for Site 1, for the perimeter of Site 1, and for the Receiving Waters; and

2. **CONTINGENCY REPORTING**

- a. The Discharger shall report by telephone, immediately after it is discovered, evidence of a significant release that may pose an imminent threat to surface or subsurface waters of the State from Site 1 or beyond any boundary of Site 1 or the Facility. A written report shall be filed with the Board within seven days, containing at least the following information:
 - 1) A map showing the location(s) of release;
 - 2) An estimate of the flow rate;
 - 3) A description of the nature of the discharge (e.g., all pertinent observations and analyses); and
 - 4) corrective measures underway or proposed.
- b. Should the initial statistical comparison [Part III] indicate, for any Constituent of Concern or Monitoring Parameter, that a statistically significant release is tentatively identified, the Discharger shall immediately notify the Regional Board verbally as to the Monitoring Point(s) and constituent(s) or parameter(s) involved, shall provide written notification by certified mail within seven days of such determination [§2550.8(j)(1)], and shall carry out a discrete retest in accordance with Parts III.C. If the retest confirms the existence of a significant release, the Discharger shall carry out the requirements of Part I.E.2.d. In any case, the Discharger shall inform the Regional Board of the outcome of the retest as soon as the results are available, following up with written results submitted by certified mail within seven days of completing the retest.
- c. If either the Discharger or the Regional Board determines that there is significant physical evidence of a release [§2550.1(3) of Article 5], the Discharger shall immediately notify the Regional Board of this fact by certified mail [or acknowledge the Regional Board's determination] and shall carry out the requirements of Part I.E.2.d. for all potentially-affected monitored media.
- d. If the Discharger concludes that a release, or a statistically significant increase in contaminant concentration, has occurred:

- 1) Then the Discharger shall, within thirty days, sample for all Constituents of Concern at all Monitoring Points and submit them for laboratory analysis. Within seven days of receiving the laboratory analytical results, the Discharger shall notify the Regional Board, by certified mail, of the concentration of all Constituents of Concern at each Monitoring Point. Because this scan is not to be tested against background, only a single datum is required for each Constituent of Concern at each Monitoring Point [§2550.8(k)(1)];
- 2) The Discharger shall, within 90 days of discovering the release, submit a Revised Report of Waste Discharge proposing an Evaluation Monitoring Program meeting the requirements of §2550.8(k)(5) and §2550.9 of Article 5; and
- 3) The Discharger shall, within 180 days of discovering the release, submit a preliminary engineering feasibility study meeting the requirements of §2550.8(k)(6) of Article 5 to provide for a corrective action or improve any existing corrective action.

3. **ANNUAL SUMMARY REPORT**

The Discharger shall submit an annual report to the Board covering the previous monitoring year. The Reporting Period ends December 31. This report shall contain:

- a. **A Graphical Presentation of Analytical Data [§2550.7(e)(14) of Article 5].** For each Monitoring Point and any Background Monitoring Points, submit in graphical format the laboratory analytical data for all samples taken on a quarterly frequency. Each such graph shall plot the concentration of one or more constituents over time for a given Monitoring Point or Background Monitoring Point, at a scale appropriate to show trends or variations in water quality. All graphs for a given constituent shall be plotted at the same scale to facilitate visual comparison of monitoring data. On the basis of any aberrations noted in the plotted data, the Executive Officer may direct the Discharger to carry out a preliminary investigation [§2510(d)(2)], the results of which will determine whether or not a release is indicated;
- b. All monitoring analytical data obtained during the previous two six-month Reporting Periods, presented in tabular form as well as on a 3½" or 5¼" diskettes, either in MS-DOS/ASCII format or in another file format acceptable to the Executive Officer. Data sets too large to fit on a single 360KB/720KB or 1.2MB/1.4MB diskette may be submitted on disk in a commonly available compressed format [e.g., FASTBACK or NORTON BACKUP, etc.]. The Board regards the submittal of data in hard copy and on diskette as "...the form necessary for..." statistical analysis [§2550.8(h)], in that this facilitates periodic review by the Board's statistical consultant;
- c. A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements; and,
- d. A written summary of the groundwater and if applicable soil-pore gas analyses, indicating any changes made since the previous annual report.

Part II: MONITORING AND OBSERVATION SCHEDULE

A. WATER SAMPLING/ANALYSIS FOR MONITORING

1. **Thirty-Day Sample Procurement Limitation.** For any given monitored medium, the samples taken from all Monitoring Points and Background Monitoring Points to satisfy the data analysis requirements for a given Reporting Period shall all be taken within a span not exceeding 30 days, and shall be taken in a manner that insures sample independence to the greatest extent feasible [§2550.7(e)(12)(B) of Article 5]. Ground water sampling shall also include an accurate determination of the ground water surface elevation and field parameters [temperature, electrical conductivity, turbidity] for that Monitoring Point or Background Monitoring Point [§2550.7(e)(13)]; ground water elevations taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the Spring and Fall ground water flow rate/direction analyses. Statistical or non-statistical analysis shall be carried out as soon as the data is available, in accordance with Part III of this program.
2. **Monitoring Points and Background Monitoring Points For Each Monitored Medium:** The Discharger shall sample Monitoring Points and Background Monitoring Points, in accordance with the sampling schedule given in Table 1.
3. **Quarterly Determination of Ground Water Flow Rate/Direction [§2550.7(e)(15) of Article 5]:** The Discharger shall measure the water level in each well and determine ground water flow rate and direction in each ground water body described in Part II.A.2 at least quarterly, including the times of expected highest and lowest elevations of the water level for the respective ground water body. This information shall be included in the twice-yearly monitoring reports required under Part I.
4. **"Direct Monitoring" of All Constituents of Concern .** In the absence of a release being indicated (1) for a Monitoring Parameter, (2) based upon physical evidence, pursuant to Part I.E.2.c., or (3) by a study required by the Executive Officer based upon anomalies noted during visual inspection of graphically-depicted analytical data [Part I.E.3.a.], **then** the Discharger shall sample all Monitoring Points (specified in Table 1) and Background Monitoring Points for water-bearing media for all Constituents of Concern every fifth year, beginning with the year of the effective date of this Self Monitoring and Reporting Program, with successive direct monitoring efforts being carried out alternately in the Spring of one year [Reporting Period ends March 31] and the Fall of the fifth year thereafter [Reporting Period ends September 30].
5. **Initial Background Determination:** For the purpose of establishing an initial pool of background data for each Constituent of Concern at each Background Monitoring Point in each monitored medium [§2550.7(e)(6)]:
 - a. Whenever a new Constituent of Concern is added to the Water Quality Protection Standard, including any added by the adoption of this Order, the Discharger shall collect at least one sample quarterly for at least one year from each Background Monitoring Point in each monitored medium and analyze for the newly-added constituent(s); and

- b. Whenever a new Background Monitoring Point is added, including any added by this Order, the Discharger shall sample it at least quarterly for at least one year, analyzing for all Constituents of Concern and Monitoring Parameters.
- 6. Monitoring Points and Background Monitoring Points For Each Monitored Medium:
The Discharger shall sample the Monitoring Points and Background Monitoring Points in accordance with the sampling schedule listed in Table 1.

**Part III: STATISTICAL ANALYSIS OF SAMPLE
DATA DURING A DETECTION MONITORING PROGRAM**

- A. **Statistical Methods** The Discharger shall use one of the following statistical methods to analyze Constituents of Concern or Monitoring Parameters which exhibit concentrations exceeding their respective MDL in at least ten percent of the background samples taken during that Reporting Period. Except for pH, which uses a two-tailed approach, the statistical analysis for all constituents and parameters shall be one-tailed [testing only for statistically significant increase relative to background]:
1. **One-Way Parametric Analysis of Variance (ANOVA), followed by multiple comparisons** [§2550.7(e)(8)(A)]. This method requires at least four independent samples from each Monitoring Point and Background Monitoring Point during each sampling episode. It shall be used when the pooled background data for the parameter or constituent, obtained during a given sampling period, has not more than 15% of the data below the PQL. Prior to analysis, replace all "trace" determinations with a value halfway between the PQL and the MDL values reported for that sample run, and replace all "non-detect" determinations with a value equal to half the MDL value reported for that sample run. The ANOVA shall be carried out at the 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at a 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis [i.e., that there is no release] to be rejected at any Monitoring Point, the Discharger shall conclude that a release is tentatively indicated for that parameter or constituent.
 2. **One-Way Non-Parametric ANOVA (Kruskal-Wallis Test), followed by multiple comparisons**. This method requires at least nine independent samples from each Monitoring Point and Background Monitoring Point; therefore, the Discharger shall anticipate the need for taking more than four samples per Monitoring Point, based upon past monitoring results. This method shall be used when the pooled background data for the parameter or constituent, obtained within a given sampling period, has not more than 50% of the data below the PQL. The ANOVA shall be carried out at the 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at a 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis (i.e., that there is no release) to be rejected at any Monitoring Point, the Discharger shall conclude that a release is tentatively indicated for that parameter or constituent.
 3. **Method of Proportions**. This method shall be used if the "combined data set" -- the data from a given Monitoring Point in combination with the data from the Background Monitoring Points -- has between 50% and 90% of the data below the MDL for the constituent or parameter in question. This method (1) requires at least nine downgradient data points per Monitoring Point per Reporting Period, (2) requires at least thirty data points in the combined data set, and (3) requires that $n * P > 5$ [where n is the number of data points in the combined data set and P is the proportion of the combined set that exceeds the MDL]; therefore, the Discharger shall anticipate the number of samples required, based upon past monitoring results. The test shall be carried out at the 99% confidence level. If the analysis results in rejection of the Null Hypothesis [i.e., that there is no release], the Discharger shall conclude that a release is tentatively indicated for that constituent or parameter.

4. **Regional Board Approved Method** The Discharger may propose for Board approval any statistical test method in accordance with **§2550.7(e)(8)(E)** of Article 5.

B. Discharger's Selected Statistical Method The Discharger's July 1, 1992 submittal entitled Site 1 Groundwater Monitoring Plan and Extraction Facility Implementation Plan proposes a statistical method for monitoring and evaluating Site 1 groundwater. The statistical method consists of the following:

1. The Discharger has identified the following Constituents Of Concern for Site 1: arsenic, barium, chromium, lead, copper, zinc, mercury, and TRPH.
2. Monitoring wells MW-5 and MW-7 have been determined to be representative of background wells. Compliance wells are MW-47 and MW-48.
3. For barium, chromium, and lead a non-parametric Anova test (Kruskal Wallis) will be performed. This test is recommended based on the variability of the data. The results of the non-parametric Anova will be checked with a one-way parametric ANOVA.
4. For copper, zinc, arsenic, and mercury: the test of proportions will be used.
5. For TRPH, the Practical Quantitation Limit of TRPH will represent background levels. For TRPH exceeding the PQL's in the Site 1 compliance wells significant evidence of a release will be identified.
6. A procedure to verify if there is statistically significant evidence of a release from the waste management unit. The statistical test method includes a verification procedure, which includes a single "composite" retest (i.e., a statistical analysis that augments and reanalyzes the data from the monitoring point that indicated a release). Rejection of the Null Hypothesis for the retest shall be confirmation of significant evidence of a release.
7. Background levels shall be updated annually

Figure 1 details a statistical procedures flowchart which the Discharger will use for the groundwater monitoring-well to groundwater monitoring-well comparisons.

The Discharger intends to reevaluate the statistical methodology originally proposed in the 1992 Site 1 Groundwater Monitoring Plan, and Extraction Facility Implementation Plan. A revised approach to statistical analysis of the compliance monitoring data in accordance with **§2550.7(e)(8)** of Article 5, will be proposed (proposal due March 24, 1995) for Board review and approval.

Based upon review and approval of the Discharger's revised statistical method, this SSM&RP may be amended upon written notification from the Executive Officer. Until such approval is granted the Discharger must comply with the current requirements of this Order.

C. Retests [§2550.7(e)(8)(E) of Article 5]. In the event that the Discharger concludes that a release has been tentatively indicated, the Discharger shall -- within 30 days of this indication -- collect new samples for the indicated Constituent(s) of Concern or Monitoring Parameter(s) at each specific Monitoring Point, collecting at least as many samples per suite as were used for the initial test. Resampling of the Background Monitoring Points is optional. As soon as the data is

available, the Discharger shall rerun the statistical method separately upon each suite of retest data. For any indicated Monitoring Parameter or Constituent of Concern at an affected Monitoring Point, if the test results of the retest data suites confirms the original indication, the Discharger shall conclude that a release has been discovered. All retests shall be carried out only for the Monitoring Point(s) for which a release is tentatively indicated, and only for the Constituent of Concern or Monitoring Parameter which triggered the indication there, as follows:

D. Verification Procedure [§2550.7(e)(8)(E) of Article 5].

1. For a verification procedure containing a composite retest, the statistical verification procedure shall be based on all data obtained from the initial sampling event combined with all data obtained during the resampling event.
2. For a verification procedure containing a composite retest, the statistical test method used shall be the same as the method used in the initial statistical comparison, except that the statistical test used in the verification procedure shall be conducted at a Type I error rate of no less than 0.05 for both the experiment-wise analysis (if any) and the individual monitoring point comparisons.

E. Organics Verification Procedure

Organics exceeding the PQL's detected in any Site 1 compliance well will constitute significant evidence of a release from Site 1.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing Self Monitoring and Reporting Program:

1. Has been developed in accordance with the procedure set forth in this Board's Resolution 73-16 in order to obtain data and document compliance with waste discharge requirements established by this Board's Order No. 95-011.
2. Is effective on the date shown below.
3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.


STEVEN R. RITCHIE
EXECUTIVE OFFICER

January 18, 1995
Date Adopted

TABLE 1**Site 1 Monitoring Specifications**

1. The Discharger shall monitor four groundwater wells which have been screened in the upper aquifer for the detection of a release from Site 1.

**LIST OF MONITORING PARAMETERS, CONSTITUENTS OF CONCERN,
AND WATER QUALITY PARAMETERS**

Constituents of Concern	Site 1 Compliance wells monitored:	Background Wells wells monitored:
	MW-47 and MW-48	MW-5 and MW-7
Arsenic	COC	WQ
Barium	COC	WQ
Chromium	MP	WQ
Lead	MP	WQ
Copper	COC	WQ
Zinc	WQ	WQ
Mercury	COC	WQ
TRPH	MP	WQ

LEGEND:

MP = Monitoring Parameter
 COC = Constituent of Concern
 WQ = Water Quality Parameter

2. Frequency of Monitoring
 - a. Monitoring Parameter Quarterly sampling with statistical analysis
 - b. Constituent of Concern Quarterly sampling for one year, then annual sampling and statistical analysis
 - c. Water Quality Parameter Quarterly sampling for one year, then annual sampling with statistical analysis

APPENDIX II

STANDARD PROVISIONS AND REPORTING REQUIREMENTS